

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed on 10/02/2008 has been considered and is effective to overcome Burgess in view of Kim references. However the finality of the office action communicated via office action of has been withdrawn in view of the new ground(s) of rejection made in this office action using newly found references. Rejection follows.
2. Applicant's request, see remarks filed on 10/02/2008 for withdrawal of the finality of previous office action was considered and withdrawal of finality was notified on 11/25/2008 via supplemental advisory action. Please also refer to interview summary mailed on 11/25/2008 with regard to processing of this request. IDS submitted on 01/06/2009 has been considered.
3. Claims 1-50 are pending in the application. Claims 19-44 are canceled. Claims 45-50 are new.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8, 17, 45, 46, recite the limitations of, "plurality of communication elements are classified into the first order to the ***Nth order ranks in ascending order of the communication management capabilities*** of the elements" and there is insufficient antecedent basis for this limitation in the claims because independent claims 1 and 10 do not clearly indicate how the "First order.....Nth order ranks of the communication management capabilities of the plurality of communication elements are performed as there is no mentioning of first and Nth order ranks or functionality for the management capability of the plurality of communication elements is defined or described in independent claims 1 and 10 and therefore there is insufficient antecedent basis for this limitation in claims 8,17,45,46.

Therefore appropriate corrections are required to these claims.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-18, 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burgess [US Pat: 5,695,859] and Reeb [US Pat: 4,792,790] further in view of Takeuchi et al [US Pat: 5,852,337].

Regarding claims 1,10, Burgess in the invention of "Pressure Activated Switching Device" disclosed a communication apparatus elements comprising: a first conductive layer and a second conductive layer and a plurality of communication elements that are connected to the first conductive layer and the second conductive layer (**upper and lower conductive layers, col 2, lines 26-35, col 2, lines 51-67**), wherein a first communication element of the plurality of communication elements, initiating transmission to a second communication element of the plurality of communication elements, is operative to control a voltage between the first conductive layer and the second conductive layer (**col 14, lines 11-32, Fig 10**) letting the second communication element to acknowledge a change in the voltage propagated around the first communication element as a signal (**col 4, lines 60-67, col 5, lines 1-27, Figs 1**), wherein the second communication element is operative to monitor the signal from the first communication element and acknowledge the change in the voltage between the first conductive layer and the second conductive layer as the signal (**col 8, lines 51-67, col 9, lines 1-26, Fig 2**), but fails to disclose wherein the second communication element is assigned an ID identifying the elements and the signal includes an ID identifying a recipient communication element of the plurality of communication elements which is subsequently to receive the signal, and

wherein the recipient communication element determines whether a signal is destined to the element by referring to the ID included in the signal. However, Reeb in the invention of "Identification device in the form of a tag-like strip affixable to an article and method for its manufacture" disclosed a device that transmits signals which includes unique identification of a particular layer sending the signal (**Fig 30, col 19, lines 5-41**). Therefore it would have been possible for one of ordinary skill in the art at the time the invention was made to use the method of transmitting source and the final destination identification in the signal as taught by Reeb in the system of Burgess to include assigning second communication element an ID, identifying the elements and a recipient ID, identifying a recipient communication element of the plurality of communication elements in the signal. Both Burgess and Reeb fail to disclose the feature wherein the plurality of communication elements can be placed for communication without individual conductive wires. However, Takeuchi et al disclosed in the invention of "Piezoelectric Film-Type Element" the method of using the piezoelectric film-type elements placed for communication without individual conductive wires in (**col 19, lines 22-44**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of placing plurality of communication elements without individual conductive wires for communication between the elements as taught by Takeuchi in the system of Burgess as modified by Reeb to include the feature wherein the plurality of communication elements can be placed for

communication without individual conductive wires. One is motivated as such in order to include the source and final destination identification (ID) in the signal transmitted by the sensor device for the recipient communication element to determine whether a signal is destined to the element by referring to the ID included in the signal in order to communicate between the elements wirelessly.

Regarding claims 2, 11, Burgess disclosed where in the first communication element is operative to generate, as the signal, the change in the voltage between the first conductive layer and the second conductive layer propagated concentrically around the first communication elements (**col 9, lines 54-67, col 10, lines 1-22**).

Regarding claims 3-4,12-13, Burgess et al fails to disclose wherein the transmitted signal includes an ID identifying a communication element which is a final destination of the signal and wherein the transmitted signal includes an ID identifying a communication element which is an originating source of transmission of the signal. However, Reeb disclosed a device that transmits signals which includes unique identification of a particular layer sending the signal (**Fig 30, col 19, lines 5-41**). Therefore it would have been possible for one of ordinary skill in the art at the time the invention was made to use the method of transmitting source and the final destination identification in the signal as taught by Reeb in the system of Burgess to include assigning second communication element an ID, identifying the elements and a recipient ID, identifying a recipient communication element of the plurality of communication

elements in the signal. One is motivated as such in order to include the source and final destination identification (ID) in the signal transmitted by the sensor device for the recipient communication element to determine whether a signal is destined to the element by referring to the ID included in the signal.

Regarding claims 5, 14, Burgess disclosed, wherein each of the communication elements allows local communication with other neighboring communication elements (**col 2, lines 51-63**), the local communication allowing sequential transmissions of a signal between the communication elements to convey the signal to a target communication element, said target communication element being disposed between the first and the second conductive layers (**col 15, lines 13-24**).

Regarding claim 6, 15, Burgess disclosed wherein the first conductive layer and the second conductive layer are flat layers (**col 10, lines 23-36**).

Regarding claim 7, 16, Burgess disclosed wherein the first conductive layer and the second conductive layer are uniform conductive layers (**col 12, lines 37-49**).

Regarding claim 8, 17, Burgess disclosed wherein the plurality of communication elements are classified into the first order to the Nth order ranks in ascending order of the communication management capabilities of the communication elements (**col 11, lines 66-67, col 12, lines 1-49**).

Regarding claim 9, 18, Burgess disclosed comprising a sensor element including a circuit for measuring stress or temperature **(force or stress, col 10, lines 57-65, col 12, lines 55-67, col 13, lines 1-14)**.

Regarding claims 45,46 Burgess et al disclosed wherein communication elements classified in the first order rank are positioned in close disposition with each other and communication elements classified in the Nth order rank are positioned in furthest disposition with each other **(col 11, lines 66-67, col 12, lines 1-49)**, but both Burgess and Reeb fails to disclose wherein communications of lower ranks utilize intervening communication elements of similar ranks and higher ranks to convey information to the recipient communication elements. However, Takeuchi et al disclosed a method for respective layers of the elements are communicating with each other based on which operating layer is required for communication among multilayered elements **(col 10, lines 27-55)**. Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of effecting respective layers of the elements with each other based on which operating layer is required for communication among multilayered elements as taught by Takeuchi et al in the system of Burgess as modified by Reeb to include the feature wherein communications of lower ranks utilize intervening communication elements of similar ranks and higher ranks to convey information to the recipient communication elements. One is motivated as such in order to provide a controlled communication between elements of the similar ranked layers wherein

elements classified in the first order rank are positioned in close disposition with each other and communication elements classified in the Nth order rank are positioned in furthest disposition with each other.

Regarding claim 47, 49 Burgess et al disclosed wherein the plural communication elements are laterally spaced from each other so as to not overlap each other in a direction of disposition of the first and second conductive layers **(vertically stacked layers, col 2, lines 36-50)**.

Regarding claims 48, 50 Burgess et al disclosed wherein the plurality of communication elements is physically disposed between the first and second conductive layers **(plurality of discrete electrodes individually positioned, col 2, lines 26-35)**.

### ***Response to Arguments***

7. Applicant's arguments, remarks filed on 10/02/2008, with respect to the rejection(s) of claim(s) 1-18 under 35 U.S.C 103(a) have been fully considered and is persuasive to over come the references. Therefore, the finality of the rejection communicated via previous office action has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Burgess and newly found Reeb and Takeuchi references.



With respect to new claims 45-50 submitted in the amendment of 10/02/2008, a new search was performed and applicant admitted prior art in IDS filed on 01/06/2009 was also considered.

With respect to applicant's argument for rejection of claims 8, 17, under 35 USC 2<sup>nd</sup> paragraph for insufficient antecedent basis because independent claims 1 and 10 do not clearly define or describe how the "First order.....Nth order ranks of the communication management capabilities of the plurality of communication elements are performed as there is no mentioning of First order to Nth order ranks or functionality for the management capability of the plurality of communication elements is indicated in independent claims 1 and 10 and therefore there is insufficient antecedent basis for this limitation in claims 8,17.

With respect to applicant's argument for amended independent claims 1,10, the examiner has relied on Burgess, where the reference disclosed the limitations of primary element initiating a signal transmission to secondary element for broad interpretation of the Nth order of the ranks of as recited in claims for multi layer elements as disclosed by Burgess for a pressure activated switching device (col 2, lines 1-67, col 14, lines 11-32). However the examiner has indicated in 35 U.S.C 112 2<sup>nd</sup> paragraph rejections above the reason leading to a broad interpretation of the claim limitations.

### ***Conclusion***

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8. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached @ (571)-272-7884. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

/Venkatesh Haliyur/

Examiner, Art Unit 2419

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